National Institute of Environmental Health Sciences

Weather effects on mobile social interactions: A case study of mobile phone users in Lisbon, Portugal

Author(s): Phithakkitnukoon S, Leong TW, Smoreda Z, Olivier P
Year: 2012
Journal: PLoS One. 7 (10): e45745

Abstract:

The effect of weather on social interactions has been explored through the analysis of a large mobile phone use dataset. Time spent on phone calls, numbers of connected social ties, and tie strength were used as proxies for social interactions; while weather conditions were characterized in terms of temperature, relative humidity, air pressure, and wind speed. Our results are based on the analysis of a full calendar year of data for 22,696 mobile phone users (53.2 million call logs) in Lisbon, Portugal. The results suggest that different weather parameters have correlations to the level and character of social interactions. We found that although weather did not show much influence upon people's average call duration, the likelihood of longer calls was found to increase during periods of colder weather. During periods of weather that were generally considered to be uncomfortable (i.e., very cold/warm, very low/high air pressure, and windy), people were found to be more likely to communicate with fewer social ties. Despite this tendency, we found that people are more likely to maintain their connections with those they have strong ties with much more than those of weak ties. This study sheds new light on the influence of weather conditions on social relationships and how mobile phone data can be used to investigate the influence of environmental factors on social dynamics.

Source: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3468584

Resource Description

Exposure :

weather or climate related pathway by which climate change affects health

Temperature

Temperature: Extreme Cold, Extreme Heat

Geographic Feature:

resource focuses on specific type of geography

None or Unspecified

Geographic Location:

resource focuses on specific location

Non-United States

Non-United States: Europe

European Region/Country: European Country

Other European Country : Portugal

Health Impact: ☒

specification of health effect or disease related to climate change exposure

Health Outcome Unspecified

Resource Type: ☒

format or standard characteristic of resource

Research Article

Timescale: ☒

time period studied

Time Scale Unspecified